

AMENDMENTS TO THE DRAWINGS:

The attached sheets of Drawings includes changes to Figs. 1-3, 5, 12-14, and 17. These sheets, which include Figs. 1-3, 5, 12-14, and 17, replace the original sheets including Figs. 1-3, 5, 12-14, and 17.

Attachment: Eight (8) Replacement Sheets.

REMARKS/ARGUMENTS

Claims 14-25 are pending in this application. By this Amendment, Applicant AMENDS the specification and the drawings, CANCELS claims 1-13, and ADDS claims 14-25.

Support for new claims 15-25 can be found in, for example, Applicant's originally filed claims 3-13. Support for new claim 14 will be addressed below.

The Examiner is reminded that in an Information Disclosure Statement filed on May 14, 2007, Applicant cited copending U.S. Patent Application Nos. 11/514,387; 11/514,386; 11/514,000; 11/513,609; 11/514,017; 11/513,537; 11/469,268; 11/469,310; 11/469,228; 11/469,252; 10/591,285; 10/591,560; and 10/591,559 to bring to the attention of the Examiner and have the Examiner consider the subject matter and claims of the copending U.S. Patent Application(s), the prior art references, Office Actions and responses to Office Actions made of record in the copending U.S. Patent Application(s). The Examiner is respectfully requested to update his/her review and consideration of the claims of the copending U.S. Patent Application(s), the prior art references, Office Actions and responses to Office Actions made of record in the copending U.S. Patent Application(s).

Applicant's undersigned representative appreciates the Examiner extending the courtesy of the telephone interview on December 15, 2010. During the telephone interview, Applicant's undersigned representative explained to the Examiner how the stopper mechanism 22, 23 disclosed by Almond (U.S. 2,655,042) is not structurally similar to and does not function in the same manner as the stopper mechanism recited in Applicant's claim 2. The Examiner tentatively agreed that Almond does not teach or suggest the stopper mechanism as recited in Applicant's claim 2. Also during the telephone interview, the Examiner alleged that Murakami et al. (JP 03-172675), cited in Applicant's Information Disclosure Statement filed August 31, 2006, appears to teach an actuation force transmission mechanism including a stopper mechanism similar to the stopper mechanism recited in Applicant's claim 2. Applicant will address the teachings of Murakami et al. below.

Claims 1, 2, 4, and 10-13 were provisionally rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 13, 15, 16, 19, and 21-23 of co-pending U.S. Application No. 10/591,559.

In the accompanying Terminal Disclaimer, Applicant has disclaimed the terminal portion of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 to 156 and 173, as shortened by any terminal disclaimer filed prior to the grant of commonly owned U.S. Application No. 10/591,559.

Accordingly, Applicant requests reconsideration and withdrawal of the provisional rejection under the judicially created doctrine of double patenting as being unpatentable over claims 13, 15, 16, 19, and 21-23 of co-pending U.S. Application No. 10/591,559.

The drawings were objected to for failing to show reference characters 16a and 16b described in paragraph [0054] of the specification and for failing to label the subfigures by Fig. number followed by a capital letter. Applicant has amended Fig. 5B to show the openings 16a and 16b and amended Figs. 1-3, 5, 12-14, and 17 to designate the subfigures by the Fig. number followed by a capital letter. Applicant has not amended Fig. 15 because it does not contain subfigures. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objection to the drawings.

Applicant has attached hereto a Substitute Specification in order to refer to the subfigures by a capital letter. Applicant's undersigned representative hereby declares and states that the Substitute Specification filed concurrently herewith does not add any new matter whatsoever to the above-identified patent application. Accordingly, entry and consideration of the Substitute Specification are respectfully requested.

Claims 1-13 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. The Examiner alleged that the phrase "-type" is indefinite. New claims 14-25 have been drafted without using the phrase "-type." Accordingly, Applicant respectfully submits that the rejection of claims 1-13 under 35 U.S.C. § 112, second paragraph, is moot.

Claims 1-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over

Bevins (U.S. 5,299,652) in view of Almond.

Applicant has canceled claims 1-13 and added claims 14-25.

New claim 14 recites:

An actuation force transmission mechanism for a shift control device in a vehicle, the shift control device arranged to perform shift control in which a shift actuator is stroked by a predetermined amount to rotate a shift shaft, the actuation force transmission mechanism comprising:

first and second coupling parts coupled together and arranged to provide a relative movement therebetween in a linear direction, the first coupling part arranged to be coupled to the shift actuator, and the second coupling part arranged to be coupled to the shift shaft;

a biasing mechanism arranged to urge the first and second coupling parts toward a neutral position; and

a stopper mechanism arranged to stop the relative movement between the first and second coupling parts when the one of the first and second coupling parts is moved from the neutral position against an urging force of the biasing mechanism; wherein

the actuation force transmission mechanism is arranged such that, when a resistive force acts linearly against the movement of the actuation force transmission mechanism, the first coupling part moves relative to the second coupling part against the urging force of the biasing mechanism until the first coupling part is stopped by the stopper mechanism, and in response to a continuing resistive force, the first and second coupling parts move together when the first coupling part is stopped by the stopper mechanism. (emphasis added)

With the unique combination and arrangement of features recited in Applicant's claim 14, including the features of "a stopper mechanism arranged to stop the relative movement between the first and second coupling parts when the one of the first and second coupling parts is moved from the neutral position against an urging force of the biasing mechanism" and "the actuation force transmission mechanism is arranged such that, when a resistive force acts linearly against the movement of the actuation force transmission mechanism, the first coupling part moves relative to the second coupling part against the urging force of the biasing mechanism until the first coupling part is stopped by the stopper mechanism, and in response to a continuing resistive force, the first and second coupling parts move together when the first coupling part is stopped by the stopper mechanism," Applicant has been able to provide an actuation force

transmission mechanism that allows for smooth shift changes even when disengagement of a dog clutch is difficult or when abutment occurs during engagement of the dog clutch (see, for example, paragraph [0010] of Applicant's specification).

The Examiner alleged that Bevins teaches a vehicle including an actuation force transmission mechanism 12 including a coupling rod 35 that pushes against a lever 13. The Examiner acknowledged that the actuation force transmission mechanism of Bevins lacks a two piece coupling structure. The Examiner alleged that Almond teaches an actuation force transmission mechanism including a first coupling part 19, a second coupling part 21, and a stopper mechanism 22, 23. The Examiner further alleged that it would have been obvious to modify Bevins to include the actuation force transmission mechanism disclosed by Almond to minimize shocks when shifting gears. With respect to claim 2, the features of which have been incorporated into new claim 14, the Examiner alleged that the actuation force transmission mechanism of Almond is arranged such that, when a resistive force acts linearly against the movement of the actuation force transmission mechanism, the first coupling 19 part moves relative to the second coupling part 21 against the urging force of the biasing mechanism 29 until the first coupling part is stopped by the stopper mechanism 22, and wherein in response to a continuing resistive force, the first and second coupling parts move together upon the first coupling part being stopped by the stopper mechanism.

New claim 14 includes all of the features of original claim 1 and the feature of "the actuation force transmission mechanism is arranged such that, when a resistive force acts linearly against the movement of the actuation force transmission mechanism, the first coupling part moves relative to the second coupling part against the urging force of the biasing mechanism until the first coupling part is stopped by the stopper mechanism, and in response to a continuing resistive force, the first and second coupling parts move together when the first coupling part is stopped by the stopper mechanism." Support for this feature is found in, for example, Applicant's originally filed claim 2.

In contrast to Applicant's claimed invention, the washer 23 of the alleged stopper mechanism of Almond is always engaged with the shoulder 22 (see, for example, each of Figs. 2-5 of Almond). Thus, the first coupling part 19 of Almond cannot possibly move relative to the second coupling part 21 until the first coupling part 19 is stopped by the shoulder 22 of the stopper mechanism, as alleged by the Examiner. (Applicant notes that Almond correctly identifies the shoulder 22 in Figs. 2 and 5, but incorrectly refers to ring/shoulder 32 by reference character 22 in Figs. 3 and 4).

Furthermore, none of the other stopper mechanisms in the actuation force transmission mechanism of Almond are structurally similar to and do not function in the same manner as the stopper mechanism recited in Applicant's claim 14. For example, as shown in Fig. 5 of Almond, the shoulder 31 and ring/shoulder 32 cannot function as a stopper mechanism because once the shoulder 31 engages the ring/shoulder 32, the first coupling part 19 and the second coupling part 21 cannot move further together.

Likewise, Almond specifically teaches in the paragraph bridging columns 2 and 3 that the once sleeve 28 simultaneously engages both of the washers 23 and 25, the force from the spring 29 "takes over to move the shifter rod 19 [first coupling part] in the same direction with a cushioned force." Thus, the sleeve 28 of Almond is separated from the washer 23 as shown in Fig. 4 such that the first coupling part 19 and the second coupling part 21 do not move together with the stopper mechanism engaged. That is, Almond teaches away from the first coupling part 19 moving together with the second coupling part 21 when the stopper mechanism is engaged in order to provide only a cushioned force (i.e., force from spring 29) for engaging the gear 13 with the high gear 16 or the low gear 15.

Thus, the combination of Bevins and Almond clearly fails to teach or suggest the features of "a stopper mechanism arranged to stop the relative movement between the first and second coupling parts when the one of the first and second coupling parts is moved from the neutral position against an urging force of the biasing mechanism" and "the actuation force transmission mechanism is arranged such that, when a resistive force acts linearly against the movement of the actuation force transmission

mechanism, the first coupling part moves relative to the second coupling part against the urging force of the biasing mechanism until the first coupling part is stopped by the stopper mechanism, and in response to a continuing resistive force, the first and second coupling parts move together when the first coupling part is stopped by the stopper mechanism,” as recited in Applicant’s claim 14.

Accordingly, Applicant respectfully submits that any rejection of claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Bevins in view of Almond would be improper for at least the reasons stated above.

As indicated above, the Examiner alleged during the telephone interview on December 15, 2010 that Murakami et al. teaches a stopper mechanism similar to the stopper mechanism recited in Applicant’s original claim 2. In the device of Murakami et al., the stoppers 52 and 53 are fixed to the shifter rod 28 at a given distance, and the engaging ring 51 has collars 57 and 57 at both sides (see, for example, Figs. 6 and 7 of Murakami et al.). The engaging ring 51 of Murakami et al. is slidably mounted on the shifter rod 28 with springs 54 and 55 interposed between the stoppers 52 and 53 with both of the springs 54, 55 in a compressed state. As shown by the phantom line in Fig. 6 of Murakami, when the shifter rod 28 is moved leftward, the right spring 54 is compressed until the right end of the collar 57 comes into contact with the right stopper 52, while the left spring 55 becomes uncompressed. In this state, only the shifter rod 28 moves leftward in the engaging ring 51. In other words, in this state, the engaging ring 51 of Murakami et al. does not move, and therefore the tip end portion 50b of the shifter arm 50 does not rotate. However, the repulsion force of the compressed right spring 54 causes a “sudden forward movement” of the engaging ring 51 leftward when the right stopper 52 comes into contact with the right collar 57, as discussed in the upper right column and the lower left column on page 4 and shown in Fig. 7 of Murakami et al. In other words, the first coupling part 28 and the second coupling part 50 do not move together when the first coupling part 28 is stopped by the stopper mechanism 57, 52.

Accordingly, Applicant respectfully submits that any rejection of claim 14 under 35 U.S.C. § 102(b) as being anticipated by Murakami et al., or under 35 U.S.C. § 103(a)

as being unpatentable over Murakami et al., would be improper for at least the reasons stated above.

In view of the foregoing amendments and remarks, Applicant respectfully submits that claim 14 is allowable. Claims 15-25 depend upon claim 14, and are therefore allowable for at least the reasons that claim 14 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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